```
GenCore version 5.1.3
Copyright (c) 1993 - 2003 Compugen Ltd.
```

```
Title:
Perfect score:
Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ON nucleic - nucleic search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Minimum DB seq length: 0
Maximum DB seq length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Database :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-09-730-559B-7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GenEmbl:*
1: gb_ba:*
2: gb_htg:*
3: gb_in:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gapop 10.0 , Gapext 1.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          February 28, 2003, 03:48:38; Search time 10747 Seconds (without alignments)
11760.816 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1. atggacgccccaaaagcagg.....attcacagcagtccccttct 4343
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2054640 seqs, 14551402878 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      gb_om: *
gb_pat: *
gb_ph: *
gb_pl: *
gb_pl: *
em_htgo_hum: *
em_htgo_mus: *
em_htgo_other: *
                                            em_htg_hum:*
em_htg_inv:*
em_htg_other:*
em_htg_mus:*
em_htg_mam:*
em_htg_rod:*
em_htg_rod:*
em_htg_vrt:*
em_htg_vrt:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            4109280
```

Pred. No. is the number of results predicted by chance to have a

e C	score greater than or equal to the score of the result being
ā	ore
g Q	916
Priv	eate
<u>e</u>	rs et
٠ کو	han
anal	ě
ys1	equ equ
9	21
t,	6
he	the
tota	SCC
~	ře
çor	Ö,
e D	the
isti	res
ngT	i L
tic	be
5	result being p
	printed
	Inte
	ģ

•																															,	_				_			
					_																									_		7	V	×		9	•		
			o (a					o o								a		G		a.	,	•	o.			c	1			`	\	Y	}	ດ	Resul No	
45	4 4 W 4	42	1	5 4	2 W	37	36	35	ω.	ω t	٠ د		29	28	27	2 5	y v) K	2 2	21	20	9	H .	7 7	7 7	-	13	2	3 2	Ó	œ	7	On (лф	٠ ر) K	-	:	
55	356.6	8	56	5	2 6	360.6		-	ω	ω:		, 6	,	÷		7:	7 6	η.	3 37		•	373.6					380.2						990	oь	1023	٠.	301.	Score	
8.2	 N N			. ر	ب س س		·	·	٠,	4	- 4		٠.	`~	٠,		٠.	лü	n iz	Ġ	'n	o	σ,	σ:	٠,			8	ωŀ	0 0	2	1.7	2	2 .	νς η (, ע	6.0	Query Match	dip
162282	152528	193970	160302	219757	131026	153221	21896	175789	156399	162227	100000	750001	195342	112756	99781	177647	102837	12021	105301	159385	40182	162609	110000	206454	10001	186131	183658	141037	176314	0.4E	3770	3341	2867	2867	080	2 P C	169377	Length	
	ŊΨ																																		,			8	
AC094095	AC016063	AL357119	AC129730	AC107464	AC069317 AC091738	AC067998	AL591364	AP000425	AC002456	AB023056	AP000519	ACCA1040	AC009120	AF030876	AF031078	AC091969	HS52202	AC0000111	ACU18464	AC007619	AC092824		AL390202_05	AC018737	AC091829	AL158192	AC032021	AC096711	AC044886	RNULCIBL	AX377522	AK027033	HSU20180	AX377520		HIMTREBPA	02722	ID	SUMMARIES
4095 Homo s	Homo	119 Homo s	Homo s	64 Homo s	AC091738 Homo sapi	1317 HOMO 1	Human		HOMO	6 Homo		Homo	ACCOUNTS HOMO SAPI	HOMO	Homo	Homo	ıman DNA	Homo sap	ACODES11 Home sapi	HOMO Sa	Homo sap	Homo sa	ion (6 o	3737 Homo sap	Homo sa	718 Homo san	32021 Homo	96711 ното зар	86 ното зар	ACO04469 Homo sapi	7/522 Sequer	033	80 Hu	7520	00060 Sequ	1 Human	C027228	Description	

AUTHORS TITLE JOURNAL	OR CRUE OF	KEYWORDS SOURCE	DEFINITION ACCESSION VERSION	RESULT 1 AC027228/c LOCUS
Birren.B., Nushaum,C. and Lander,E. Homo sapiens chromosome 15, clone RP11-650L12 Unpublished	numu supracio Bukaryota, Metazoa, Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria, Primates; Catarrhini; Hominidae; Homo.	HTG.	Homo sapiens chromosome 15, Glone KF11-000H14, Complete sequence: AC027228 AC027228.16 GI:22024598	AC027228 169377 bp DNA linear PRI 06-AUG-2002

ALIGNMENTS

TITLE JOURNAL	TITLE JOURNAL REFERENCE AUTHORS	AUTHORS AUTHORS JOURNAL REFERENCE AUTHORS	REFERENCE
Camarata, J., Chang, J., Chazaro, B., Choepel, Y., Collymore, A., Cook, A., Cooke, P., DeArellano, K., Dewar, K., Diaz, J.S., Dodge, S., Faro, S., Ferreira, P., FitzGeraid, M., Gage, D., Galagan, J., Gardyna, S., Gord, S., Graham, L., Grand-Pierre, N., Hagos, B., Horton, L., Hilme, M., Iliev, I., Johnson, R., Jones, C., Kamat, A., Kells, C., Landers, T., Levine, R., Lindblad-Toh, K., Liu, G., MacLean, C., Maddrad, P., Major, J., Matthews, C., McCarthy, M., Meldrim, J., Meneus, L., Mihova, T., Mlenga, V., McCarthy, M., Neldrim, J., Meneus, L., Mihova, T., Mlenga, V., McCarthy, M., Neldrim, J., Weneus, L., Mihova, T., Mlenga, V., McCarthy, M., Neldrim, J., O'Neil, D., Oliver, J., Peterson, K., Phunkhang, P., Pierre, N., Raymond, C., Retta, R., Rise, C., Rogov, P., Phunkhang, P., Pierre, N., Raymond, C., Retta, R., Seamar, S., Severy, P., Smith, C., Spencer, B., Schauer, S., Schupback, R., Seamar, S., Severy, P., Smith, C., Spencer, B., Stange-Thomann, N., Stojanovic, N., Talamas, J., Viel, R., Vo, A., Wilson, B., Wu, X., Wyman, D., Young, G., Zainoun, J., Zembek, L., Zaimer, A. and Zody, M. Direct Submission Direct Submission Street, Cambridge, MA 02141, USA	Faro, S., Ferreira, P., Beatelland, N., Dewall, N., Gage, D., Faro, S., Ferreira, P., Fitzderald, M., FitzRugh, W., Gage, D., Galagan, J., Gardyna, S., Glnde, S., Gord, S., Goyette, M., Graham, L., Grand-Pierre, N., Hagos, B., Horton, L., Hulme, W., Lilev, I., Johnson, R., Jones, C., Kamat, A., Karatas, A., Kells, C., LaRocque, K., Johnson, R., Landers, T., Lehoczky, J., Levine, R., Lindblad-Toh, K., Liu, G., Maccean, C., Macdonald, P., Major, J., Marquis, N., Liu, G., Maccean, C., Macdonald, P., Major, J., Maylor, J., Nguyen, C., Matthews, C., McCarthy, M., McEwan, P., McKernan, K., Heldrim, J., Meneus, L., Mihova, T., Mlenga, V., Murphy, T., Naylor, J., Nguyen, C., Nicol, R., Norbu, C., Nerman, C.H., O'Connor, T., O'Donnell, P., O'Neil, D., Oliver, J., Peterson, K., Phunkhang, P., Pierre, N., Rogov, P., Roman, J., Rosetti, M., Roy, A., Santos, R., Schauer, S., Schupback, R., Stauss, N., Sutzamanlan, A., Talamas, J., Tasfaye, S., Stolanovic, N., Strauss, N., Travis, N.	Birren, B., Linton, L., Nusbaum, C., Lander, E., Abraham, H., Allen, N., Anderson, S., Baldwin, J., Barna, N., Bastlen, V., Beda, F., Anderson, S., Baldwin, J., Barna, N., Bastlert, G., Bedystawkiy, L., Boukhgalter, B., Brown, A., Burkett, G., Campoplano, A., Cooke, P., DeArellano, K., Cangelo, M., Collins, S., Collymore, A., Cooke, P., DeArellano, K., Dewar, K., Diaz, J.S., Dodge, S., Domino, M., Doyle, M., Ferreira, P., FitzHugh, W., Gage, D., Galgan, J., Gardyna, S., Ginde, S., Goyette, M., Graham, L., Grand-plerre, N., Grart, G., Hagos, B., Heaford, A., Horton, L., Kazatas, A., Kiein, J., Larocque, K., Lamazares, R., Landers, T., Lehoczky, J., Levine, R., Lieu, C., Liu, G., Locke, K., Macdonald, P., Marquis, N., Levine, R., Lieu, C., Liu, G., Locke, K., Macdonald, P., Marquis, N., McCarthy, M., McEwan, P., McGurk, A., McKernan, K., Hechesters, R., Heldrim, J., Meneus, L., Mihova, T., Miranda, C., Mlaega, V., Morrow, J., Murphy, T., Naylor, J., Korman, C.H., O'Connor, T., O'Donnell, P., O'Neil, D., Olivar, T., M., Oliver, J., Rogov, P., Rothman, D., Pisani, C., Pollara, V., Raymond, C., Riley, R., Rogov, P., Rothman, D., Faya, A., Santos, R., Schauer, S., Severy, P., Spencer, B., Stange-Thomann, N., Stojanovic, N., Subramanian, A., Talamas, J., Tesfaye, S., Theodore, J., Tirrell, A., Travers, M., Trigilio, J., Vassiliev, H., Viel, R., Vo, A., Milson, B., Mu, X., Myman, D., Ye, M.J., Vassiliev, H., Viel, R., Vo, A., Milson, B., Mu, X., Myman, D., Ye, M.J., Vassiliev, M., Subramanian, A., Talamas, J., Tesfaye, S., Tandor, J., Zimmer, A. and Zody, M. E Direct Submission MAL Submission MAL Submission, M., Bastien, V., Bloom, T., Boguslavky, L., Allen, N., Bartien, V., Bloom, T., Boguslavky, L., Boukhgalter, B., Brown, A., Canarata, J., Canpoplano, A., Chang, J., Cangoplano, A., Candor, S., Chang, J., Cangoplano, A., Candor, A., Callymore, A., Candor, C	2 (hagae 1 to 169377)
repeat_region complement(46844972) repeat_region /rpt_family="Alusg" repeat_region /rpt_family="LipB1" repeat_region /rpt_family="Alusx" repeat_region /rpt_family="Alusx" repeat_region /rpt_family="Li" repeat_region /rpt_family="Li" unsure /rote="<30 qual SNGL region" /rpt_family="TB1B" repeat_region /rpt_family="TB1B" repeat_region /rpt_family="TB1B" repeat_region /rpt_family="TB1B" /rpt_family="Li"	Center project Information Center project name: L8639 Center clone name: 650_L_12 FEATURES LOCATION/Qualifiers 1. 169377 //bx xref "taxon: 9606" //chromosome="15" //chromoso	Barra Coamai Coamai Coamai Coamai Coamai Coamai Gardy Horry Kara McCa McCa McCa McCa McCa McCa McCa McC	REFERENCE 5 (bases 1 to 169377)

repeat_region

```
Qy 1232 TGTTAGCTCATTTAGTCCTTATAACAAGCCTGTGAGATGGATACTATTACTATTCTCATT 1291
Db 123424 TGTTAGCTCATTTAGTCCTTATAACAAGCCTGTGAGATGGATACTATTACTATTCTCATT 1233
                                                                                   OY 1172 CAACAAACAGAGCATTTAGTTTGTACTAATAAATACAAAGAAATTTGTTGTTGTTCACTTA 1231
Db 123484 CAACAAACAGAGCATTTAGTTTGTACTAATAAATACAAAGAAATTTGTTGTTGTTCACTTA 123425
                                                                                                                                                                                                                                                              OY 1052 CTTACTGAACATTATTTTTATAAAAATTGAAGAGCTCTATGAGAGCAGGGATTTGGGTTC 1111
Db 123604 CTTACTGAACATTATTTTTATAAAAATTGAAGAGCTCTATGAGAGCAGGGATTTGGGTTC 123545
                                                                                                                                                                                                                                                                                                                                                    QY 992 CATCCATAGATGTTGTTGTTGGTATTACAAAGGTAAGTTAAAGTTGTGGTAGCTCTATGA 1051
Db 123664 CATCCATAGATGTTGTTCTTGGTATTACAAAGGTAAGTTAAAGTTGTGGTAGCTCTATGA 123605
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            OY 872 TICTGGGGTGGGGGGTTGGAAGGCATTGAAACAGAAGCAGTTATGCTTGGTCTGCCAGTTT 931
Db 123784 TTATTACGTTAGGGGTTGGAGGCATTGAAACAGAAGCAGTTATGCTTGGTCTGCCAGTTT 123725
                                                                                                                                                                                                                      ş
                                                                                                                                                                               B
                                                                                                                                                                                                                                                                                                                                                                                                                                          Db 123724 CTCTTACTTTACCAGAGGTGGTTGGATGTGAGGTTAACTGGGTCATCAAACCCTTTTGTTA 123665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match 76.0
Best Local Similarity 98.6
Matches 3431; Conservative
                                                                                                                                                                     932 CTCTTACTTTACCAGAGGTGGTTGGATGTGAGTTAACTGGGTCATCAAACCCTTTTGTTA 991
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /rpt_family="L2"
17495 . 17791
/rpt_family="AluSx"
/rpt_family="AluSx"
/rpt_family="Ali6. . 17938)
/rpt_family="MRR45R"
/rpt_family="AluSx"
/rpt_family="AluSx"
/rpt_family="AluJb"
/rpt_family="AluJb"
/rpt_family="L2"
/rpt_family="L2"
/rpt_family="L2"
/rpt_family="AluJo"
/rpt_family="AluJo"
/rpt_family="AluJo"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /rpt_family="AluSg/x"
complement(16712. 17016)
/rpt_family="AluSx"
complement(17131. 17377)
/rpt_family="L2"
17469. 17791
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /rpt_ta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /rpt_family="L2"
complement(14504...14810)
complement(14504...14810)
family="Alusx"
fan/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           10371. .10394

/rpt_family="AT_rich"

/complement(10632. .10817)

/rpt_family="MER104"

10921. .11241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        complement(13832. .13896)
/rpt_family="L2"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                complement(13299 ...13602)
/rpt_family="Alux"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /rpt_family="MIR3"
complement/1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /rpt_family="Alusx"
11800. .12061
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             rpt_family=*L2*
.6275. .16381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    rpt_family-"Alusg"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             76.0%; Score 3301.2;
98.6%; Pred. No. 0;
tive 3; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             _family-"L1ME4A"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DB 9; Length 169377;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               31; Indels 13; Gaps
    123365
                        Db 122346 TTTGTGATCCTTATAGGAATAATCCTGTATTGTTTTTTTGATGAGAGCAGCATTTGGTTT 122287
```

0 y Q Q Q Q Q Q Q Q Q Q Q Q Q Q Q Q Q Q			ор 1 Оу	0y 0b 1 0b 1	0y 0b 1 0y 0b 1	Оу 56 1 9у 56 1	Qy	0y
2188	, n eo n	1948 122705 2008 122645 2068	1888 22765	1708 22945 1768 1768 22885	1588 23065 1648 23005	1468 23184 1528 23125	1352 23304 1408 23244	1292
TROCTGACANTATTACTGTGTGTTTTTGGACATTTTACTTTAATGTTAAAAATTAATGT		GARTANGCCTCCCCTCCKGCATTTGGTATTGACTATTGTATTGTAT		ACTGAGCTTGTTAAGCATATTAATACACAGGCTCACGGATTTCCTAGTGAACAATAATTT [TGGACTGTAGAAATGTGATATATCATTTTTCTGTTGGCGTTTAACATTTGTCTGGATTA	TTTTCTCTTTTTAACTTGAATTAAAAAAAAGTTTAGCAAAAGTTGAWTGTGGCCTCT[TARACTCTGAGAAAACTAAGGTACAGGATAGGGTTTAGTGACTAACGAAAGGGTCGAAGGCC
2247 122406	ы оры 4	2007 122646 2067 122586 2127	94 22	1767 122886 1827 122826	1647 123006 1707 122946	1527 123126 1587 123066	407	1351 123305

INTETNATETGRSTTTCTTTCATCCTRANAAATTAAAACCATAGGCCGGGGGGGGGGGGGGGGGGGG
4427 222227 22167 22167 22167 22167 2217 221

		р р	рь 12 Оу рь 12	H	Qy Db 12 Qy Db 12	Qy Db 12 Qy Db 12	Db 12 Qy Db 12	
4 2 4 2	4108 20551 4168 20491	3988 20671 4048 20611	90791 3928 20731	3808 :0851 3868	3688 0971 3748	3568 1089 3628 1031	1208 3508	
TITGATCOTGACTIGACTGTTT-CCCATAATGATGGATACCTCCCCCCTCTACTTAGGGG	GTTGAAGAACAACTTTGAAGGAAAGATCAGATGTCTTTAAAGAGTGTTG 	ACATTTAGAACATACAGGTAAGAAGATAAAGATCACTAGAATAAACATGTTACATTTCC 4	GAGTTTTTTGGAAGTGGAGTTCACAATTATCTATAGTTGATGGAAGTACAATA ATGTGTCCGGAATATGGTGCTATCCTCAGCTTTTTCCCTGTTGACAATGTGACA: 	TGGAAGTGGAGTTTATATAGCACCTCAGGCAAGTAGGAGTGGCTGGAAAGTTTGT TGTATTCCTTATATAGCACCTCAGGCAAGTAGGAGTGGCTGGAAAGTTTGT TGGAAGTGGAGTTTCACAATTATCTATAGTAGGACTAGCAACTACAATAGCAAA 	TGAGTTGATTCATAAGGACAATGAAGGATCTCATTCCTTCACCATCACTAGTATTGGTTA 3	CATGAAAATGTTAATTATAGCCACCTTGAAGCTTTCAGGSCCCTTTCTACCCTGCAATTAA 3 [GA 1	
4286 120372 43	4167 120492 4227 120432	1047 120612 1107 120552	20	867 2079 2079	747 20912 807 20852	627 21032 687 20972	21149 567 .21090	

REFERENCE AUTHORS

RESULT 2
BC017880
LOCUS
DEFINITION
ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM

BC017880
BC017880
BC017880
BC017880
BC017880
BC017880
BC017880.1 GI:17389723
MGC.
HOMO Saplens
HOMO Saplens
HOMO Saplens
HOMO Saplens
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
Strausberg,R.

```
REMARK
COMMENT
                                                                                                                                                                                                               B 8
                                                                                                                                                                                                                                                                                                                                                                                                                     BASE CO
                      밁
                                                      Ş
                                                                                    8
                                                                                                                   Š
                                                                                                                                                 망
                                                                                                                                                                               õ
                                                                                                                                                                                                                                                                             8
                                                                                                                                                                                                                                                                                                            QΥ
                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local Sim
Matches 1448;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                    COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              source
                                                                                                                                                            175
                                295
                                                                                                                            181
 301
                                                                                                                                                                                          121
                                                                                                                                                                                                                                                         61
                                                                                                                                                                                                                                                                                         55
                                                                                                               TCAATACGGGTCTTGTTGGAAGCTGCTGTACGAAATTGTGATGGCTTTTTAATGAAGAAG
                                                                                                                                                                                                                       TCACATAAGAAGTTCTTCGATGTATCTAAACTTGGCACCAAGTATGATGTTCTGCCTTAC
                                                                                                                                                                                                                                                                                                        ATGGACGCCCAAAAGCAGGATACGCCTTTGAGTACCTTATTGAAACATTAAATGACAGT 60
                                TICCCTGCCCGTGTTCTTCTAGATTTTACTGGANTACCAGCANTGGTGGATTTTCCT
GCTATGAGGGAGGCAGTGAAAAACTCTTGGAGGTGATCCTGAGAAAGTCCATCCTGCTTGT
                                                                                            TCAATACGGGTCTTGTTGGAAGCTGCTGTACGAAATTGTGATGGCTTTTTAATGAAGAAG
                                                                                                                                                                                                                                                                                         ATGGACGCCCCAAAAGCAGGATACGCCTTTGAGTACCTTATTGAAACATTAAATGACAGT 114
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NIH-MGC Project URL: http://mgc.nci.nth.gov
Contact: MGC help desk
Emall: cgapbs-rémail nih.gov
Tissue Procurement: ATCC
CONA Library Preparation: CLONTECH Laboratories, Inc.
CONA Library Preparation: CLONTECH Laboratories, Inc.
CONA Library Preparation: Group at the Stanford Human
CONA Library Arrayed by The I.M.A.G.E. Consortium (LLNL)
DNA Sequencing by: Sequencing Group at the Stanford Human
Center, Stanford University School of Medicine, Stanford,
Web site: http://www-shgc.stanford.edu
Contact: (Dickson, Mark) mcdepaxil.stanford.edu
Contact: (Dickson, Mark) mcdepaxil.stanford.edu
Contact: (Schmutz, J., Grimwood, J., Rodriquez, A., and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Clone distribution: MGC clone distribution information can be fo through the I.M.A.G.E. Consortium/LLMI at: http://image.llnl.gov series: IRAL Plate: 35 Row: k Column: 1 This clone was selected for full length sequencing because it passed the following selection criteria: Hexamer frequency ORF analysis, Similarity but not identity to protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Direct Submission
Submitted (03-DEC-2001) National Institutes of Health, Mammalian
Gene Collection (NGC), Cancer Genomics Office, National Cancer
Institute, 31 Center Drive, Room 11A03, Bethesda, MD 20892-2590,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   USA
                                                                                                                                                                                                                                                                                                                                                                        Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                      462
                                                                                                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1...1346
/organism="Homo sapiens"
/organism="Homo sapiens"
/organism="taxon:9506"
/clone="MGC:22754 IMAGE:4277855"
/tissue_type="5rain, primitive neu
/clone_lib="NHH MGC_56"
/lab.host="DH10B"
                                                                                                                                                                                                                                                                                                                                                                                                                                    ø
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /codon_start=1
/product="Unknown (protein for MGC:22754)"
/product="Unknown (protein for MGC:22754)"
/protein_id="Nahl'1880.1"
/protein_id="Nahl'1880.1"
/db_xref="GI:17389724"
/translation="MDAPKGYAFEYLIETLNDSSHKKFFDVSKLGTKYDVLPYSIRV
/translation="MDAPKGYAFEYLIETLNDSSHKKFFDVSKLGTKYDVLPYSIRV
LLEADVRHCDGFLHKKEDWNNILDWKTROSHVEPFFPVLLQDDTGIPAMVDPAM
REAVKTLGGDPEKVHPACPTDLTVDHSLQIDFSKCAIQNAPNPGGGDLQAAGKLSPLK
QPKKLDCRGGTTCRGSCDSGELGRNGGTSSQIENTFILLPFVFEKDLLFPDSV
RYTEGRHERLGFFKASRVFKNYAVIPPGTGHAHQINLETLSRVVFEKKDLFPDSV
RYTEGRHERLGFFKASRVFKNYAVIPPGTGHAHQINLETLSRVVFEKKDLFPDSV
RYTEGRHERLGFFKASRVFKNYAVIPPGTGHAHQINLETLSRVVFEKKDLFPDSV
RYTEGRHERLGFFKASRVFKNYAVIPPGTGHAHQINLETLSRVVFEKKDLFPDSV
RYTEGRHERLGFFKASRVFKNYAVIPPGTGHAHQINLETLSRVVFEKKDLFPDSV
RYTEGRHERLGFKASRVFKNYAVIPPGTGHAHQINLETLSRVVFEKKDLFPDSV
RYTEGRHERLGFKASRVFKNYAVIPPGTGHAHQINLETLSRVVFEKKDLFPDSV
RYTEGRHERLGFKASRVFKNYAVIPPGTGHAHQINLETLSRVVFEKKDLFPDSV
RYTEGRHERLGFKASRVFKAVAVIPPGTGHAHQINLETLSRVVFEKKDLFPDSV
RYTEGRHERLGFKASRVFKAVAVIPPGTGHAHQINLETLSRVVFEKKDLFPDSV
RYTEGRHERLGFKASRVFKAVAVIPPGTGHAHQINLETLSRVVFEKKDLFPDSV
RYTEGRHERLGFKASRVFKAVAVIPPGTGHAHQINLETLSRVVFEKKDLFPDSV
RYTEGRHERLGFKASRVFKAVAVIPPGTGHAHQINLETLSRVVFEKKDLFPDSV
RYTEGRHERLGFKASRVFKAVAVIPPGTGHAHQINLETLSRVVFEKKDLFPDSV
RYTEGRHERLGFKASRVFKAVAVIPPGTGHAHQINLETLSRVVFEKKDLFPDSV
RYTEGRHERLGFKASRVFKAVAVIPPGTGHAHQINLETLSRVVFEKKDLFPDSV
RYTEGRHERLGFKASRVFAVAVIPPGTGHAHQINLETLSRVVFEKKDLFPDSV
RYTEGRHERLGFKASRVFAVAVIPPGTGHAHQINLETLSRVVFEKKDLFPDSV
RYTEGRHERLGFKASRVFAVAVIPPGTGHAHQINLETLSRVVFEKKDLFPDSV
RYTEGRHERLGFKASRVFAVAVIPPGTGHAHQINLETLSRVVFEKKDLFPDSV
RYTEGRHERLGFKASRVFAVAVIPPGTGHAHQINLETLSRVVFEKKDLFT
RYTEGRHERLGFKASRVFAVAVIPPGTGHAHQINLETLSRVVFEKKDLFT
RYTEGRHERLGFKASRVFAVAVIPPGTGHAHQINLETLSRVVFEKKDLFT
RYTEGRHERLGFKASRVFAVAVIPPGTGHAHQINLETLSRVFT
RYTEGRHERLGFKASRVFAVAVIPPGTGHAHQINLETLSRVFT
RYTEGRHERLGFKASRVFAVAVIPPGTGHAHQINLETLSRVFT
RYTEGRHERLGFKASRVFAVAVIPPGTGHAHQINLETLSRVFT
RYTEGRHERLGFKASRVFAVAVIPPGTGHAHQINLETLSRVFT
RYTEGRHERLGFKASRVFAVAVIPPGTGHAHQINLETLSRVFT
RYTEGRHERLGFKASRVFAVAVIPPGTGHAHQINLETLSRVFT
RYTEGRHERLGFKASRVFAVAVIP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /note="Vector: pDNR-LIB" 55. 1086
                                                                                                                                                                                                                                                                                                                                                                                                                                   3ITKVS"
296 c
                                                                                                                                                                                                                                                                                                                                                                    32.7%;
                                                                                                                                                                                                                                                                                                                                                     0;
                                                                                                                                                                                                                                                                                                                                                     Score 1420.4; DB 9;
Pred. No. 1.7e-288;
D; Mismatches 6;
                                                                                                                                                                                                                                                                                                                                                                                                                                    340 g
                                                                                                                                                                                                                                                                                                                                                                                                                                      448 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                neuroectodermal"
                                                                                                                                                                                                                                                                                                                                                                                   Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A., and
                                                                                                                                                                                                                                                                                                                                                                                         1546;
                                                                                                                                                                                                                                                                                                                                                       <u>.</u>
                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Genome
CA 94305
                                                                                                                                                                                                                          174
                                                                                                                            240
                                                                                                                                                                                          180
                                                                                                                                                                                                                                                         120
                                 354
                                                              300
                                                                                              294
                                                                                                                                                            234
                                                                                                                                                                                                                                                                                                                                                         2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                         γ
                                                                                                                                                                                                                                                                                                          B
                                                                                                                                                                                                                                                                                                                                                                      B
                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          50
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ΩÝ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ŝ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ф
                ő
                                               В
                                                                                                             ₽
                                                                                                                                       Ş
                                                                                                                                                                           B
                                                                                                                                                                                                      Ñ
                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                    Q
                                                                                                                                                                                                                                                                                                                                  QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                    B
                    1380
                                                                                                                                               1261
                                                                                                                                                                               1255
                                                                                                                                                                                                             1201
                                                                                                                                                                                                                                           1195
                                                                                                                                                                                                                                                                            1141
                                                                                                                                                                                                                                                                                                            1135
                                                                                                                                                                                                                                                                                                                                          1081
                                                                                                                                                                                                                                                                                                                                                                        1075
                                                                                                                                                                                                                                                                                                                                                                                                        1021
                                                                                                                                                                                                                                                                                                                                                                                                                                        1015
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     475
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  415
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  355
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       955
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     895
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 835
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                775
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              715
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            655
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          595
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       535
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TGTCCTTTTCATTTGCAACCAGTGCCTGAACCGTGAAACAGTGTTAAAAAAATCAAGAAGTA
TGTCCTTTTCATTTGCAACCAGTGCCTGAACCTGAAACAGTGTTAAAAAAATCAAGAAGTA
TGTCCTTTTCATTTGCAACCAGTGCCTGAACCTGAAACAGTGTTAAAAAAATCAAGAAGTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AATGTGGCAGTGATCCCTCCTGGAACTGGAATGGCTCATCAAATAAACTTAGAATATTTG
                                                 AGCCACATCATCATAGTTATCATAGTAATAACAACAACAGAGCATTTAGTTTGTACTAA
                                                                                                                                                                                                                                                                                                                           AAGAGCTCTATGAGAGCAGGGATTTGGGTTCATTACTGCATCCTCAGGTCTTTGACGTT
                                                                                                                                                                                                                                                                                                                                                                      AAGGTAAGTTAAAGTTGTGGTAGCTCTATGACTTACTGAACATTATTTTTATAAAAATTG
                                                                                                                                                                                                                                                                                                                                                                                                                                    ACAGAAACCAGTTATGCTTGGTCTGCCAGTTTCTCTTACCTTACCAGAGGTGGTTGGATGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AGGCAGTCAGATTCTTGAGTCATGT---CTAACCATTATGCCCTTATTAGTGCCTTGTTGC
                                                                                                                                                                                                                                                                                                            AAGAGCTCTATGAGAGCAGGGATTTGGGTTCATTACTGCATCCTCAGGTCTCTTGACGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    420
                      1436
                                                                                                                                                                                                               1260
                                                                                                                                                                                                                                               1254
                                                                                                                                                                                                                                                                             1200
                                                                                                                                                                                                                                                                                                            1194
                                                                                                                                                                                                                                                                                                                                                                            1134
                                                                                                                                                                                                                                                                                                                                                                                                          1080
                                                                                                                                                                                                                                                                                                                                                                                                                                        1074
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1014
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       534
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     474
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    414
                                                                                                                   1374
                                                                                                                                                                               1314
                                                                                                                                                                                                                                                                                                                                            1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     954
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   894
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 834
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                774
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            714
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          654
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         594
```

780

```
SOURCE
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DEFINITION
FOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           JOURNAL
MEDLINE
PUBMED
REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              JOURNAL
MEDLINE
PUBMED
REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PUBMED
REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COMMENT
FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      JOURNAL
MEDLINE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               REBPA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1495
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1437
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1435
                                                                                                                                                                                                                                                                                                                                              gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CTTAATAAACACTTGCTG 1512
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CTTAATAAACACTTGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AGGCAGTCAGATTCTTGAGTCCATTGTCTTAACCATTATGCCTTATTAGTGCCTTGTTGC 1494
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3 (bases 1 to 2889)
Rouault,T.A., Halle,D.J., Downey,W.E., Philpott,C.G., Tang,C., Samanlego,F., Chin,J., Paul,I., Orloff,D., Harford,J.B. et al. An iron-sulfur cluster plays a novel regulatory role in the iron-responsive element binding protein Biometals 5 (3), 131-140 (1992)
1421965
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              samanlego.F., Chin, J., Twal, K., Rouault, T.A. and Klausner, R.D.
wolseular characterization of a second iron-responsive element
binding protein, iron regulatory protein 2. Structure, function,
and post-translational regulation
J. Biol. Chem. 269 (49), 30904-30910 (1994)
95074121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo. 1 (basea 1 to 2889)

Rouault, T.A., Tang, C.K., Kaptain, S., Burgess, W.H., Haile, D.J., Samaniego, F., McBride, O.H., Harford, J.B. and Klausner, R.D. Cloning of the cDNA encoding an RNA regulatory protein - the human iron responsive element-binding protein - 17958-7962 (1990)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2889 bp mRNA linear Human iron-responsive element-binding protein/iron protein 2 (IRE-BP2/IRP2) mRNA, partial cds. MS8511 M37836
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RNA regulatory protein; iron-responsive element-binding protein. Human cDNA to mRNA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Direct Submission
Submitted (17-DEC-1990) Tracey A. Rouault, Cell Biology and Metabolism Branch, NICHHD, NIH, Bethesda, MD 20992, USA On Jul 14, 1995 this sequence version replaced gi:186547.
Location/Oualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Proc. Na
91045916
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      M58511.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Rouault, T.A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (bases 1 to 2889)
                                        /product="iron-responsive element-binding protein/iron regulatory protein 2"
/protein 1"
/protein 1"
/protein 1"
/protein 2"
/protein 1"
/
                                                                                                                                                                                                                                                                                                                                                                                                                 /organism-"Homo sapiens"
/db_xref="taxon:9606"
/map-"9p"
/cell_line-"YT"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GI:897825
VGTDSHITMVNĞLGILGWOVGGIETEAVMLGLPVSLTLPEVVGCELTGSSNPFVTSID
VVLGITXHLRQVGVAGKFVEFFGSGVSQLSIVDRTTIANNCPEYGAILSFEPVDNVTL
                                                                                                                                                                                                                                                     1. .>2889
/gene="IRE-BP2/IRP2"
/codon_start=1
                                                                                                                                                                                                                                                                                                                /gene-"IRE-BP2/IRP2"
                                                                                                                                                                                                                                                                                                                                                                                    /cell_line-"YT"
/cell_type-"T cell"
                                                                                                                                                                                                                                                                                                                                                              _stage- "adult"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1454
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ą
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRI 14-JUL-1999
regulatory
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              뒪
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           QY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                            S
                                                                                                                                                                                                               8
                                                                                                                                                                                                                                                     ą
                                                                                                                                                                                                                                                                                                     닭
                                                                                                                                                                                                                                                                                                                                              δÃ
                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                              Ş
                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Matches 1023;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              241
                                                                      781
                                                                                                                         721
                                                                                                                                                                 721
                                                                                                                                                                                                               661
                                                                                                                                                                                                                                                             661
                                                                                                                                                                                                                                                                                                           601
                                                                                                                                                                                                                                                                                                                                                      601
                                                                                                                                                                                                                                                                                                                                                                                                    541
                                                                                                                                                                                                                                                                                                                                                                                                                                               541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       5
                                                                                                                                                                                                               TGTCCTTTTCATTTGCAACCAGTGCCTGAACCTGAAACAGTGTTAAAAAATCAAGAAGTA
                                TCAAGAGTGGTTTTTGAAGAAAAAGACCTCCTCTTCCCAGACAGTGTAGTCGGCACAGAT
                                                                                                                      AATGTGGCAGTGATCCCTCCTGGAACTGGAATGGCTCATCAAATAAACTTAGAATATTTG
```

```
Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                    GTGCAGCCTAAGAAGCTTCCCTGCAGAGGCCAGACTACCTGCCGAGGATCTTGTGATTCT
                                                                                                                                   GCTATGAGGGAGGCAGTGAAAACTCTTGGAGGTGATCCTGAGAAAGTCCATCCTGCTTGT 360
                                                                                                                                                                                                                                                                                    GGAGAACTAGGCCGAAACTCAGGAACATTTTCTTCGCAGATTGAGAATACACCCATCCTG
TGTCCTTTCATTTGCAACCAGTGCCTGAACCTGAAACAGTGTTAAAAAATCAAGAAGTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      879
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   KHLEHTGESKAKLESHETYLKAVKLERNDQNSSGEDEYSQVIQINLNSIVPSVSGFKR
PQDRVAVTDMKSDFQACLMEX/UGFKGFQIAAEKQKOIVSIHYEGESYKLSHGSVVIAA
PQDRVAVTDMKSDFQACLMEX/UGFKGFQIAAEKQKOIVSIHYEGESYKLSHGSVLFVI
SKLGFEIVGYCCSTTVGMTAPLSDALMAVKQOLVTCGILSGNKNFEGRILOCVRAN
YLASPPLVVAVAIAGTVNIDFOTEFLATDFTGKNIX'LHDIMPSRECHHAVEEHVILS
MFKALKONIEMGNKRHNSLEAPDSVLFFWDLKSTYIRCPSFFDKLTKEPIAGAIENA
HVLLYLCDSVTTDHISPAGSIARNSAAAKYLTHRGLTPREENSYGARRGNDAVMTRGI
FANIKLFUKFTGKRAPKTIHFPSGQTLDVFEAAEKYCNGEGIPLILLAGKKYGSGNSRD
MAAKRPILLGVKAVLAESYEKIHKDHLIGIGIAPLOFLPGENADSLGLSGRETFSLTF
PEELLSPGTILNIQTSTGKVVSVIASFEDVEITLYKHGGLLNFVARKFS*

8 534 c 637 g 839 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    23.6%; 5c
100.0%; Pr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Pred. No. 6.8e-205;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 2889;
                                                                                                                                                                                                                                                                                                                                                                                                                   180
                                                                                                                                                                  480
                                                                                                                                                                                                                  420
                                                                                                                                                                                                                                                                                                                                                                                          180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     60
                                                                                                                                          480
                660
                                          600
                                                                 600
                                                                                       540
                                                                                                                540
                                                                                                                                                                                           420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0
```

840

840

780 780 720 720 660

```
ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT 4
AX400060
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              S
S
                                                                                                                                                                                                                                                                                                                                                                                                                 REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
         õ
                           망
                                            õ
                                                                                                       ORIGIN
                                                                                                                                                                                                                                                                                                                                                                  FEATURES
                                                                                                                BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                   TITLE
JOURNAL
                                                                  Query Match
Best Local Similarity
Matches 1023; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1021
                                                                                                                                                                                                                                                                                                                                                         source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        106
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              841
          61
                            -
                                             بر
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A
A
G
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAG
TCACATAAGAAGTTCTTCGATGTATCTAAACTTGGCACCAAGTATGATGTTCTGCCTTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AX400060
Sequence 231 from Paten
AX400060
AX400060.1 GI:21336471
                                                                                                                                                                                                                                                                                                                                                                          Tang.Y.T., Asundi.Y., Zhou.P., Xue.A.J., Ren.F., Zhang.J., Wang.D., Liu.C., Drmanac.R.T. and Wehrman.T. Nucleic acids and polypeptides
Patent: WO 0218424-A 231 07-MAR-2002;
HYSEO, INC. (US)
                                                                                                                                                                                                                                                                                                                                                                                                                                  Eukaryola; Metazoa; Chordata; Craniata; Yertebrata; Euteleostomi; Mammalla; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1023
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1023
                                                                                                                 1009
                                                                  23.6%;
ilarity 100.0%;
Conservative (
                                                                                                            LLEAAVRICEGGELKKEEDVMILLDWKTKQSNYEVPETPAKKEFDVSKLGTKYDVLPYSIRV
LLEAAVRICEGGELKKEEDVMILDWKTKQSNYEVPETPARVLLQDETGIPAKVDERAM
REAVRYLEGGEDEKVHPACYDDLTVDHSKOLDDESKCALONAPOGGGDLOKAGKLSPLK
VOPKKLPCRGQTTCRGSCDSGELGRNSGTESSQIENTPILCPYHLQDPTGIPAKVDERAM
VOPKKLPCRGQTTCRGSCDSGELGRNSGTESSQIENTPILCPYVGCELIGSSPETVLKNQ
EVEFCRINRERLQFFKMSSRVLKNVAVIEPGTCBAHQINLEYLSRVVVEEEKDLLFPDSV
VGTDSHITMWNGLGILGGWVGGLETEANVLGLEVSLTLPEVVGCELIGSSNFFYTSID
VVLGITKHLRQVGVAGKFVEFFGSGVSOLSIVORTTLANNGPEYGALLASIPPSVBVTL
KHLEHTGFSKAKLESMETYLKAVKLFRNDQNSSGEPFYSQVIQINLNSIVPSVSGPKR
PRDRYAVTDMKSDFOACLMEKVGFKGFGIAAEKQKDIVSIHFEGSEKVKLSHSSVVIAA
VISCTNNCHPSVMLAAGLAKKAVEAGLLVKCOLVFCGNETWKKHEERIKLDCVBAN
VIASPPLVVAYAIAGTVNIDFQTEPLGTDPTGKNIYLHDIMPSREEVHRVEEEHVLLS
SKLGFEIGVGGGTGVCVGNTAPLSDAVLAMSVKGODLVFCNETWKKHEERIKLDCVBAN
VLASPPLVAYAIAGTVNIDFQTEPLGTDPTGKNIYLHDIMPSREEVHRVEEEHVLLS
MFKALKDKLEMGHISPAGSIARNSAAKYLTMRGLTFREFUSVGARRGNDAVMTGGT
FANIKLENNETIGRBAFKTHFPSGGTLDVFEDAECLYOKEGIPLILAGKKYGSGNSRD
HAAKGPYLLGVKAVLAESYEKIHKDHLIGIGIAPLGFILBGENADSLCSGRETFSLTF
PEELSGTTLNIQTSTGKVYSVTASFEDDVEITLYKHGGLLNEVARKIS*
DEELSGTTUNIQTSTGKVYSVTASFEDDVEITLYKHGGLLNEVARKIS*

54 C 713 g 964 t
                                                                                                                 ۵
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3280 bp
231 from Patent W00218424.
                                                                                                                                                                                                                                                                                                                                  /organism-"Homo sapiens"
/db_xref-"taxon:9606"
                                                                                                                                                                                                                                                                                       /protein_id="CAD33504.1"
/db_xref="GI:21336472"
                                                                                                                                                                                                                                                                                                           /codon_start=
                                                                                                                                                                                                                                                                                                                   /note="unnamed protein product"
                                                                                                                                                                                                                                                                                                                                                                 ocation/Qualifiers
                                                                Score 1023; DB 6;
; pred. No. 6.8e-205;
0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DNA
                                                                               Length 3280;
                                                                 Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 linear
                                                                   0:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PAT 06-JUN-2002
                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  900
            120
                                                                    0
  RESULT 5
AX377520
LOCUS
DEFINITION
ACCESSION
VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ρ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                           δÃ
                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                 9
                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                            8
                                                                                                                                                                                                                                                                                                                            80
                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                  õ
                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                      Š
                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                           Ϋ́
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 γ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ₽
                                                                                                                                   Š
                                                                                                                                                       밁
                                                                                                                                                                       Ş
                                                                                                                                                                                           맑
                                                                              몽
                                                                                             Š
                                                                                                                   밁
                                                                              1021
                                                                                                 1021
                                                                                                                                                                                                                                                                                                           541
                                                                                                                                                                                                                                                                                                                                                                                                         541
                                                                                                                                                                                                                                                                                                                                                                                                                            301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               121
                                                                                                                                                                                                                                                     781
                                                                                                                                                                                                                                                                        721
                                                                                                                                                                                                                                                                                           721
                                                                                                                   961
                                                                                                                                      961
                                                                                                                                                         901
                                                                                                                                                                          106
                                                                                                                                                                                              841
                                                                                                                                                                                                               841
                                                                                                                                                                                                                                   781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GTATGAGGGAGGCAGTGAAAACTCTTGGAGGTGATCCTGAGAAAGTCCATCCTGCTTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AATGTGGCAGTGATCCCTCCTGGAACTGGAATGGCTCATCAAATAAACTTAGAATATTTG
                                                                                                                                                                                                                                                                                                                                                                                    TCACATAAGAAGTTCTTCGATGTATCTAAACTTGGCACCAAGTATGATGTTCTGCCTTAC
                                                                              AAG
                                                                                                AAG 1023
   AX377520 2867 bp
Sequence 17 from Patent W00212284.
AX377520 GI:19573708
                                                                              1023
                                 DNA
                                 linear
                                 PAT
                                 18-MAR-2002
                                                                                                                                                                                                                                                                                                                                                                                                           600
                                                                                                                                                                                                                                                                                                                                                                                                                               540
                                                                                                                                                                                                                                                                                                                                                                                                                                                 540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     120
                                                                                                                                                                                                                                     840
                                                                                                                                                                                                                                                        840
                                                                                                                                                                                                                                                                         780
                                                                                                                                                                                                                                                                                             780
                                                                                                                                                                                                                                                                                                              720
                                                                                                                                                                                                                                                                                                                                 720
                                                                                                                                                                                                                                                                                                                                                                                          600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      300
```

.

```
밁
                                                                                  밁
                                                                                                             Ş
                                                                                                                                            밁
                                                                                                                                                                    δð
                                                                                                                                                                                                   뮍
                                                                                                                                                                                                                            Ŷ
                                                                                                                                                                                                                                                          D
                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                           õ
                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                   용
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AUTHORS
                                                                                    109
                                                                                                                                            541
                                                                                                                                                                       574
                                                                                                                                                                                                     481
                                                                                                                                                                                                                               514
                                                                                                                                                                                                                                                           421
                                                                                                                                                                                                                                                                                                                    361
                                                                                                                                                                                                                                                                                                                                              394
                                                                                                                                                                                                                                                                                                                                                                            301
                                                                                                                                                                                                                                                                                                                                                                                                       334
                                                                                                                                                                                                                                                                                                                                                                                                                                   241
                                                                                                                                                                                                                                                                                                                                                                                                                                                               274
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                154
754 GCTCATCAAATAAACTTAGAATATTTGTCAAGAGTGGTTTTTGAAGAAAAAAGACCTCCTC 813
                                                                                                                                                                                                                                                                                        454
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     94
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              34 TACCTTATTGAAACATTAAATGACAGTTCACATAAGAAGTTCTTCGATGTATCTAAACTT 93
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Toca1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 TACCTTATTGAAACATTAAATGACAGTTCACATAAGAAGTTCTTCGATGTATCTAAACTT 60
                                                                                    TGGCAGATTGAGAATACACCCATCCTGTGTCCTTTTCATTTGCAACCAGTGCCTGAACCT 600
                                                                                                                                                                                                                                                                                                                                                                         GATCCTGAGAAAAGTCCATCCTGCTTGTCCGACAGATCTTACAGTTGACCATTCTTTACAA 393
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GGCACCAAGTATGATGTTCTGCCTTACTCAATACGGGTCTTGTTGGAAGCTGCTGTACGA 153
                             TTTANGTGGAGTTCAAGAGTTTTAAAGAATGTGGGAGTGATCCCTCCTGGAACTGGGAATG 753
                                                                                                                                                                         TCGCAGATTGAGAATACACCCATCCTGTGTCCTTTTCATTTGCAACCAGTGCCTGAACCT 633
                                                                                                                                                                                                 ACTACCTGCCGAGGATCTTGTGATTCTGGAGAACTAGGCCGAAACTCAGGAACATTTTCT 573
                                                                                                                                                                                                                                                                                                                                              ATTGACTTCAGTAAATGTGCAATACAGAATGCACCAAATCCTGGAGGTGGTGACCTGCAG 453
                                                                                                                                                                                                                                                                                                                                                                                                                                   AAACAAAGCAATGTTGAAGTGCCCTTTTTTCCCTGCCCGTGTTCTTCTTCAAGATTTTACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAACAAAGCAATGTTGAAGTGCCCTTTTTTCCCTGCCCGTGTTCTTCAAGATTTTTACT 273
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ANTTGTGATGGCTTTTTAATGAAGAAGGAAGATGTTATGAACATTTTAGACTGGAAAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AATTGTGATGGCTTTTTAATGAAGAAGGAAGATGTTATGAACATTTTAGACTGGAAAACC 213
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GGCACCAAGTATGATGTTCTGCCTTACTCAATACGGGTCTTGTTGGAAGCTGCTGTACGA 120
                                                                                                                                                                                                                                                          ANAGCAGGAAAGCTCTCTCCACTTAAAGTGCAGCCTAAGAAGCTTCCCTGCAGAGGCCAG
                                                                                                                                                                                                                                                                                        AAAGCAGGAAAGCTCTCTCCACTTAAAGTGCAGCCTAAGAAGCTTCCCTGCAGAGGCCAG
                                                                                                                                                                                                                                                                                                                    ATTGACTTCAGTAAATGTGCAATACAGAATGCACCAAATCCTGGAGGTGGTGACCTGCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ,066
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   human.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Iron regulating protein-2 (irp-2) as a diagnostic for neurodegenerative disease Patent: WO 0212284-A 17 14-FEB-2002; Loma Linda University Medical Center (US); THE SECRETARY OF DEPARTMENT OF HEALTH AND HUMAN SERVICES (US)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Kirsch, W.M., Lennart, A., Kelln, W.J., Kang, D.K., Levine, R.L.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Roualt, T.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 871
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /organism="Homo sapiens"
/db_xref="taxon:9606"
1 527 c 630 g 839
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     22.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 990; DB 6; Le
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            630 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 839 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 2867;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                          480
                                                                                                                                                                                                                                                                                      513
                                                                                                                                                                                                                                                                                                                    420
                                                                                                                                                                                                                                                                                                                                                                                                                                     300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ġ.
```

```
JOURNAL
MEDLINE
PUBMED
REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DEFINITION
ACCESSION
VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 6
HSU20180
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      874
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TCCATAGATGTTGTTCTTGGTATTACAAAG 1023
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CTGGGGTGGGGGGTTGGAGGCATTGAAACAGAAGCAGTTATGCTTGGTCTGCCAGTTTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CTGGGGTGGGGGGTTGGAGGCATTGAAACAGAAGCAGTTATGCTTGGTCTGCCAGTTTCT 933
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TTCCCAGACAGTGTAGTCGGCACAGATTCACACATAACGATGGTGAATGGTTTAGGGATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TTCCCAGACAGTGTAGTCGGCACAGATTCACACATAACGATGGTGAATGGTTTAGGGATT 873
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.

1 (bases 1 to 2867)

Guo, B., Brown, F.M., Phillips, J.D., Yu, Y. and Leibold, E.A.
Characterization and expression of iron regulatory protein 2 (IRP2). Presence of multiple IRP2 transcripts regulated by intracellular iron levels

J. Biol. Chem. 270 (28), 16529-16535 (1995)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Submitted (23-JAN-1995) Fritz N. Brown, Program in Hum. Mol. Bio. and Genetics, University of Utah, 3250 Bldg 533, Salt Lake City,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        U20180
U20180.1 GI:897580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    HSU20180 2867 bp mRNA linear PRI
Human iron-regulatory protein 2 (IRP2) mRNA, partial cds
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Brown, F.M
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (bases 1 to 2867)
/product="firen regulatory protein 2"
/db_xref="gila97581"
/db_xref="gila97581"
/db_xref="gila97581"
/translation="YLIETLNDSSHKKFFDVSKLGTKYDVLPYSIRVLLEAAVRNCDG
/translation="YLIETLNDSSHKKFFDVSKLGTGIPAAVDFRAAMREAVKTLGGDP
EKVHPACPTDLTVHSLQLDFSKANVEVLLODFTGIPAAVDFRAKLSPLKVQPKLLCGRQ
/translation="YLIETLNDSSHFFVLLAGTFVPVLKNOEVEFGRAREL
/translation="firent"

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /clone="pSLFB4a, pSLFB15c"
/sex="female"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /organism="Homo sapiens"
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Location/Qualifiers
1. .2867
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /gene="IRP2"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /note-"Similar to GenBank Accession No. U20181"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /tissue_type="brain"
/dev_stage="fetus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                             /codon_start-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       IRP2"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        990
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRI 26-OCT-1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Biol.
```

```
BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local !
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches 990;
                                                                                                                                                                                                                                                                                                                          601
                                                                                                                                                                                                                                                                                                                                                                634
                                                                                                                                                                                                                                                                                                                                                                                                          541
                                                                                                                                                                                                                                                                                                                                                                                                                                                  574
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               514
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               454
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             394
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          334 GATECTGAGAAAGTCCATCCTGCCTGTCCGACAGATCTTACAGTTGACCATTCTTTACAA 393
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            274
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    181
841
                                     874
                                                                               781
                                                                                                                     814
                                                                                                                                                             721
                                                                                                                                                                                                  754
                                                                                                                                                                                                                                          661
                                                                                                                                                                                                                                                                                  694
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          214
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       154
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         94
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Local Similarity
CTGGGGTGGGGGTTGGAGCATTGAAACAGAAGCAGTATGCTTGGTCTGCCAGTTTCT 933
                                                                                                                                                                                                                                                                                                                     ATTGACTTCAGTAAATGTGCAATACAGAATGCACCAAATCCTGGAGGTGGTGACCTGCAG 453
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GGCACCAAGTATGATGTTCTGCCTTACTCAATACGGGTCTTGTTGGAAGCTGCTGTACGA 153
                                                                                                                                                                                                                                                                                                                                                                                                        TCGCAGATTGAGAATACACCCATCCTGTGTCCTTTTCATTTGCAACCAGTGCCTGAACCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GATCCTGAGAAAGTCCATCCTGCTTGTCCGACAGATCTTACAGTTGACCATTCTTTACAA 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAACAAAGCAATGTTGAAGTGCCCTTTTTCCCTGCCCGTGTTCTTCTTCAAGATTTTTACT 240
                                                                                                    TTCCCAGACAGTGTAGTCGGCACAGATTCACACATAACGATGGTGAATGGTTTAGGGATT 873
                                                                                                                                                          GCTCATCAAATAAACTTAGAATATTTGTCAAGAGTGGTTTTTGAAGAAAAAAGACCTCCTC 780
                                                                                                                                                                                GCTCATCAAATAAACTTAGAATATTTGTCAAGAGTGGTTTTTGAAGAAAAAGACCTCCTC 813
                                                                                                                                                                                                                                                                                TTTAAGTGGAGTTCAAGAGTTTTAAAGAATGTGGCAGTGATCCCTCCTGGAACTGGAAIG 753
                                                                                                                                                                                                                                                                                                                                                                                                                                                  TCGCAGATTGAGAATACACCCATCCTGTGTCCTTTTCATTTGCAACCAGTGCCTGAACCT 633
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACTACCTGCCGAGGATCTTGTGATTCTGGAGAACTAGGCCGAAACTCAGGAACATTTTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ACTACCTGCCGAGGATCTTGTGATTCTGGAGAACTAGGCCGAAACTCAGGAACATTTTCT 573
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAAGCAGGAAAGCTCTCTCCACTTAAAGTGCAGCCTAAGAAGCTTCCCTGCAGAGGCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AMAGCAGGAMAGCTCTCTCCACTTAAAGTGCAGCCTAAGAAGCTTCCCTGCAGAGGCCAG 513
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATTGACTTCAGTAAATGTGCAATACAGAATGCACCAAATCCTGGAGGTGGTGACCTGCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAACAAAGCAATGTTGAAGTGCCCTTTTTCCCTGCCCGTGTTCTTCTTCAAGATTTTACT 273
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AATTGTGATGGCTTTTTAATGAAGAAGGAAGATGTTATGAACATTTTAGACTGGAAAAACC 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AATTGTGATGGCTTTTTAATGAAGAAGGAAGATGTTATGAACATTTTAGACTGGAAAAACC 213
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GGCACCAAGTATGATGTTCTGCCTTACTCAATACGGGTCTTGTTGGAAGCTGCTGTACGA 120
                                                                               TTCCCAGACAGTGTAGTCGGCACAGATTCACACATAACGATGGTGAATGGTTTAGGGATT
                                                                                                                                                                                                                                          TITAAGTGGAGTTCAAGAGTTTTAAAGAATGTGGCAGTGATCCCTCCTGGAACTGGAATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      871 a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AIAGTYNIDFOTEPIGTDPTGKNIYLHDIWPSREEVHRYEEEHVILSMFKALKDKIEM
GNKRWASLEADSVLFPWDLKSTYIRC SESFENKITKEDIALGATEMVLLYLGOSYT
TDHISPAGSIARNSAAKKITNROLIPBRENDYGARRONDAYMTROTEANIKLENKFI
GKPAPKTIHFPSGOTLDVFEAAELYQKEGIPLIILAGKKYGSGNSRDWAAKGPYLLGV
GKPAPKTIHFPSGOTLDVFEAAELYQKEGIPLIILAGKKYGSGNSRDWAAKGPYLLGV
GKPAPKTHKPSGOTLDVFEAAELYQKEGIPLIILAGKKYGSGNSRDWAAKGPYLLGV
IQTSTCKVFEVIASFEDDVEITLYKRGLLNFVARKFS*

27 c 630 g 839 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               22.8%; Score 990; DB 9; Li
100.0%; Pred. No. 5.9e-198;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 2867;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       420
                                                                             840
                                                                                                                                                                                                                                                                                                                                                                693
                                                                                                                                                                                                                                                                                                                                                                                                          600
                                                                                                                                                                                                                                          720
                                                                                                                                                                                                                                                                                                                          660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0
```

õ

용 Ş ₽

ô 문 õ 밁 Š В Š Š

밁

δÃ 문 ô B õ 8 Ş 밁 Ş Ş 문 Ş 尽 Ş

g

밁

```
RESULT 7
AK027033
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         JOURNAL
REFERENCE
                                                             Ş
                                                                                                                                            8
                                                                                                                                                                                                          õ
                                                                                                                                                                                                                                                                                                                                                                                                                                     BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                             Query Match
Best Local :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ORGANISM
                                                                                                                                                                                                                                                                                            Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      934 CTRACTTRACCAGAGGTGCTTGGATGTGAGTTAACTGGGTCATCAAACCCTTTTGTTACA 993
901 CTTACTTTACCAGAGGTGCTTGGATGTGAGTTAACTGGGTCATCAAACCCTTTTGTTACA 960
                                                                                                                                                                                     75 CITCGATGTATCTAAACITGGCACCAAGTATGATGTTCTGCCTTACTCAATACGGGTCTT 134
                                                                                                                                                1 CITCGATGTATCTAAACTTGGCACCAAGTATGATGTTCTGCCTTACTCAATACGGGTCTT 60
                                                                                                                                                                                                                                                                                            946;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3341 bp mRNA linear PRI 29-SEP-2000 Homo sapiens cDNA: FL723380 fls, clone HEP16267, highly similar to HUMIREBPA Human iron-responsive element-binding protein/iron regulatory protein 2 (IRE-BP2/IRP2) mRNA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Submitted (29-AUG-2000) Sumio Sugano, Institute of Medical Science, Submitted (29-AUG-2000) Sumio Sugano, Institute of Medical Science, University of Tokyo, Laboxatory of Genome Structure Analysis, Human Genome Center; Shirokane-dai, 4-5-1, Minator ku, Tokyo 108-8639, Japan (E-mail:cdnal@ims.u-tokyo.ac.jp, Tel:81-3-5449-5286, Fax:81-3-5449-5416)
NEDO human CDNA sequencing project supported by Ministry of International Trade and Industry of Japan; cDNA full insert sequencing: Research Association for Biotechnology; cDNA library construction, 5'- & 3'-end one pass sequencing: Departent of Construction, 5'- & 3'-end one pass sequencing: Departent of Construction, 5'- & 3'-end one pass sequencing: Departent of Construction, 5'- & 3'-end one pass sequencing: Departent of Construction, 5'- & 3'-end one pass sequencing: Departent of Construction, 5'- & 3'-end one pass sequencing: Departent of Construction, 5'- & 3'-end one pass sequencing: Departent of Construction, 5'- & 3'-end one pass sequencing: Departent of Construction, 5'- & 3'-end one pass sequencing: Departent of Construction, 5'- & 3'-end one pass sequencing: Departent of Construction, 5'- & 3'-end one pass sequencing: Departent of Construction, 5'- & 3'-end one pass sequencing: Departent of Construction, 5'- & 3'-end one pass sequencing: Departent of Construction, 5'- & 3'-end one pass sequencing: Departent of Construction, 5'- & 3'-end one pass sequencing: Departent of Construction, 5'- & 3'-end one pass sequencing: Departent of Construction, 5'- & 3'-end one pass sequencing: Departent of Construction, 5'- & 3'-end one pass sequencing: Departent of Construction, 5'- & 3'-end one pass sequencing: Departent of Construction, 5'- & 3'-end one pass sequencing: Departent of Construction, 5'- & 3'-end one pass sequencing: Departent of Construction, 5'- & 3'-end one pass sequencing: Departent of Construction, 5'- & 3'-end one pass sequencing: Departent of Construction, 5'- & 3'-end one pass sequencing: Departent of Construction, 5'- & 3'-end one pass sequencing: D
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Homo sapiens
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2 (bases 1 to 3341)
Sugano,S., Suzuki,Y., Ota.T., Obayashi,M., Nishi,T., Isogai,T.,
Shibahara,T., Tanaka,T. and Nakamura,Y.
Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Kawabata,A., Hikiji,T., Kobatake,N., Inagaki,H., Ikema,Y., Okamoto,S., Okitani,R., Ota,T., Suzuki,Y., Obayashi,M., Nishi,T., Shibahara,T., Tanaka,T., Nakamura,Y., Isogai,T. and Sugano,S. NEDO human cDNA sequencing project
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AK027033.1 GI:10440047 oligo capping; fis (full insert sequence). Homo sapiens hepatoma cell_line:HepG2 cDNA to mRNA, clone_lib:HEP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Unpublished
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        clone: HEP16267.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              University of Tokyo (partly supported by Science and Technolog)
                                                                                                                                                                                                                                                                                                                                 Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1031 a
                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /note="highly similar to HUMIREBPA Human iron-responsive element-binding protein/iron regulatory protein 2 (IRE-BPZ/IRP2) mRNA."

3 597 c 725 g 988 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /cell_line="HepG2"
/cell_type="hepatoma"
/clone_lib="HEP"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /organism="Homo sapiens"
/db_xref="taxon:9606"
/clone="HEP16267"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Location/Qualifiers
                                                                                                                                                                                                                                                                                                                         21.7%; Score 944.2; DB 9; 99.7%; Pred. No. 2.6e-188;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               cloning vector pME18SFL3"
                                                                                                                                                                                                                                                                                            0; Mismatches
                                                                                                                                                                                                                                                                                                                                                          Length 3341;
                                                                                                                                                                                                                                                                                                Indels
                                                                                                                                                                                                                                                                                            0;
                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                0
```

8 50

SECRETARY

ဓ္

THE

3770; ω •• Gaps

۲

```
RESULT 8
AX377522
LOCUS
DEFINITION
ACCESSION
VERSION
XEYWORDS
SOURCE
ORGANISM
                      REFERENCE
                AUTHORS
                                                                                                                                                                                                                                                                                                                                                                 555
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      315
                                                                                                                                                 975
                                                                                                                                                                                                                                                       661
                                                                                                                                                                                                                                                                                                      675
                                                                                                                                                                                                                                                                                                                     541
                                                                                                                                                                                                                                                                                                                                    615
                                                                                                                                                                                                                                                                                                                                                                                                                                            301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     255
                                                                                                                                     901
                                                                                                                                                                 841
                                                                                                                                                                                915
                                                                                                                                                                                               781
                                                                                                                                                                                                             855
                                                                                                                                                                                                                             721
                                                                                                                                                                                                                                          795
                                                                                                                                                                                                                                                                       735
                                                                                                                                                                                                                                                                                        601
                                                                                                                                                                                                                                                                                                                                                   481
                                                                                                                                                                                                                                                                                                                                                                                 421
                                                                                                                                                                                                                                                                                                                                                                                                495
                                                                                                                                                                                                                                                                                                                                                                                                              361
                                                                                                                                                                                                                                                                                                                                                                                                                             435
                                                                                                                                                                                                                                                                                                                                                                                                                                                           375
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    195
                                                                                                                                                                GCTTGGTCTGCCAGTTTCTCTTTACTTTACCAGAGGTGGTTGGATGTGAGTTAACTGGGTC
                                                                                                                                                                                                                            TCGAGAGAGGCTTCAGTTTTTAAGTGGAGTTCAAGAGTTTTAAAGAATGTGGCAGTGAT
                                                                                                                                                                                                                                                                                                                    GCAACCAGTGCCTGAACCTGAAACAGTGTTAAAAAATCAAGAAGTAGAAATTCGGCAGAAA
                                                                                                                                                                                                                                                                                                                                                 AAACTCAGGAACATTTTCTTCGCAGATTGAGAATACACCCATCCTGTGTCCTTTTCATTT
                                                                                                                                                                                                                                                                                                                                                                                 GCTTCCCTGCAGAGGCCAGACTACCTGCCGAGGATCTTGTGATTCTTGGAGAACTAGGCCGGCTTCCCCTGCAGAGGCCAGACTACCTGCCGAGGATCTTGTGATTCTGGAGAACTAGGCCG
                                                                                                                                                                                                                                                                                                                                                                                                              AGTGAAAACTCTTGGAGGTGATCCTGAGAAAGTCCATCCTGCTTGTCCGACAGATCTTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CATTTAGACTGGAAACCAAACAAAGCAATGTTGAAGTGCCCTTTTTCCCTGCCCGTGT
                                                                                                                                    GGTGAATGGTTTAGGGATTCTGGGGTGGGGGGTTGGAGCCATTGAAACAGAAGCAGTTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TCTTCTTCAAGATTTTACTGGAATACCAGCAATGGTGGATTTTGCTGCTAT@AGGGAGGC
                                                                        AX377522
Sequence 19
AX377522
AX377522.1
                                    Norway rat
Rattus nor
Eukaryota;
Mammalia;
Kirsch,W.M., Lennart,A.,
Roualt,T.A.
Iron regulating protein-
 regulating protein-2
                                     y rat.
s norvegicus
yota; Metazoa;
lia; Eutheria;
                                                                          GI:19573709
                                                                                         from
                                                                                        Patent
                                      Chordata;
Rodentia;
                                                                                         3770 bp
W00212284.
               Kelln, W.J., Kang, D.K.,
 (1rp-2)
                                      Craniata; Vertebrata; Euteleostomi; Sciurognathi; Muridae; Murinae;
 as
                                                                                                DNA
 Ø
 diagnostic
                                                                                                linear
                Levine, R.L.
                                                                                                PAT
                                                                                                18-MAR-2002
                                                                                                                                                                                                                                                                                                                                     674
                                                                                                                                                                                                                                                                                                                                                                 614
                                                                                                                                                                                                                                                                                                                                                                                 480
                                                                                                                                                                                                                                                                                                                                                                                                                              494
                                                                                                                                                                                                                                                                                                                                                                                                                                                           434
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     314
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      180
                                                                                                                                                                                                                                          854
                                                                                                                                                                                                                                                         720
                                                                                                                                                                                                                                                                        794
                                                                                                                                                                                                                                                                                                      734
                                                                                                                                                                                                                                                                                                                      600
                                                                                                                                                                                                                                                                                                                                                    540
                                                                                                                                                                                                                                                                                                                                                                                               554
                                                                                                                                                                                                                                                                                                                                                                                                              420
                                                                                                                                                                                                                                                                                                                                                                                                                                            360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         374
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        240
                                                                                                                                                                                              840
                                                                                                                                                                                                           914
                                                                                                                                                                                                                                                                                        660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    254
                                                                                                                                                                                 974
                                                                                                                                                                                                                             780
                                                                                                                                                                   900
                                                                                                                                                                                                                                                                                                                                                                       δ
                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                Ş
                                                                                밁
                                                                                             Ş
                                                                                                                            Ş
                                                                                                                                             밁
                                                                                                                                                         δÃ
                                                                                                                                                                          밁
                                                                                                                                                                                       õ
                                                                                                                                                                                                       ₽
                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                  õ
                                                                                                                                                                                                                                                                  용
                                                                                                                                                                                                                                                                                õ
                                                                                                                                                                                                                                                                                               B
                                                                                                                                                                                                                                                                                                             Š
                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                          δõ
                                                                                                                                                                                                                                                                                                                                                            무
                                                                                                                                                                                                                                                                                                                                                                                         8
                                                                                                                                                                                                                                                                                                                                                                                                                      B
                       ₽
                                    Ş
                                                   В
                                                                                                               멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match 20.2%;
Best Local Similarity 91.6%;
Matches 940; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              JOURNAL
          838
                       792
                                      778
                                                    732
                                                                   718
                                                                                  672
                                                                                                658
                                                                                                               612
                                                                                                                              598
                                                                                                                                             552
                                                                                                                                                           538
                                                                                                                                                                          492
                                                                                                                                                                                        478
                                                                                                                                                                                                       432
                                                                                                                                                                                                                      418
                                                                                                                                                                                                                                      372
                                                                                                                                                                                                                                                    35B
                                                                                                                                                                                                                                                                  312
                                                                                                                                                                                                                                                                                 298
                                                                                                                                                                                                                                                                                                252
                                                                                                                                                                                                                                                                                                              238
                                                                                                                                                                                                                                                                                                                              192
                                                                                                                                                                                                                                                                                                                                             178
                                                                                                                                                                                                                                                                                                                                                            132
                                                                                                                                                                                                                                                                                                                                                                          118
                                                                                                                                                                                                                                                                                                                                                                                          72
                                                                                                                                                                                                                                                                                                                                                                                                       61
                                                                                                                                                                                                                                                                                                                                                                                                                      12
                                                                                                                                                                                                                                                                                                                                                                                                                               1 ATGGACGCCCCAAAAGCAGGATACGCCTTTGAGTACCTTATTGAAACATTAAATGACAGT
                                                                                                                                                                                                                                                                                                                                                          TACTCAATACGGGTCTTGTTGGAAGCTGCTGTACGAAATTGTGATGGCTTTTTAATGAAG
                                                                                                                                                                                                                                                                                                                                                                                         CTGTGTCCTTTTCATTTGCAACCAGTGCCTGAACCTGAAACAGTGTTAAAAAATCAAGAA
                                                                                                                                           AAAGTGCAGCCTAAGAAGCTTCCCTGCAGAGGCCAGACTACCTGCCGAGGATCTTGTGAT
                                                                                                                                                                                                       CAGAATGCACCAAATCCTGGAGGTGGTGACCTGCAGAAAGCAGGAAAGCTCTCTCCACTT
                                                                                                                                                                                                                                     TGTCCGACAGATCTTACAGTTGACCATTCTTTACAAATTGACTTCAGTAAATGTGCAATA
                                                                                                                                                                                                                                                                 ATGGACTCCCCAAGTGCAGGATACACCTTTGAGTACCTTATTGAAACATTAAATGGCAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              neurodegenerative disease
Patent; WO 0212284-A 19 14-FEB-2002;
Loma Linda University Medical Center (US);
DEPARTMENT OF HEALTH AND HUMAN SERVICES (US)
Location/Qualifiers
1. 3770
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ø
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /organism="Rattus norvegicus"
/db_xref="taxon:10116"
1 713 c 840 q 1098 f
                                                                                                                                                                                                                                                                                                                                                                                                                                                    0
                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 877.2; DB 6;
Pred. No. 3.2e-174;
0; Mismatches 83;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        THE
```

417

431

371 357 311 297 251 191 177

237

117 71 60

131

477

537 491

551

657 611 597

717 671

851 837

897

777

791

8 8 8 8

밁 Š 밁 Ş

8 8 밁 Ş 유 성 8 8

밁 Š 9 8 ð 밁 Q

유 성 유

Ş

밁 Ş 8

₽ Ş В

Length

3770; ω ,, Gaps

۲;

```
JOURNAL MEDLINE PUBMED REFERENCE AUTHORS TITLE JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ACCESSION
VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 9
RNU20181
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DEFINITION
                                                                                                                                                                                                                                                                                                                                                 CBS
                                                                                                                                                                                                                                                                                                                                                                                  gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1032
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1018
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    972
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      958
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         912
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               868
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     852
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ACAAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 rat.
Rattus norvegicus
Eukaryota; Metazoa; Chordata;
Eukaryota; Metazoa; Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 (Dases 1 to 3770)
1 (Dases 1 to 3770)
Guo,B., Brown,F.M., Phillips,J.D., Yu,Y. and Leibold,E.A. Characterization and expression of iron regulatory protein (IRP2). Presence of multiple IRP2 transcripts regulated by
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            020181
020181.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Direct Submission
Submitted (23-CAN-1995) Fritz M. Brown, Program in Hum. Mol. Biol and Genetics, University of Utah, 3250 Bldg 533, Salt Lake City, 84112, USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 intracellular iron levels
J. Biol. Chem. 270 (28), 16529-16535 (1995)
95348066
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Rattus
cds.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    7622457
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RNU20181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (bases 1 to 3770)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1023
/gene='ir22"
//gene='ir22"
//gene='ir22"
//gene='ir22"
//gene='ir22"
//prodon_stert=1
//pro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1037
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            81 3770 bp mRNA linear ROD 26-OCT-1995 norvegicus iron-regulatory protein 2 (IRP2) mRNA, complete
                                                                                                                                                                                                                                                                                                                                                                                               /organism-"Rattus norvegicus"
/strain-"Spraque-Dawley"
/db.xref-"taxon:10116"
/clone-"pSLB00, pUZB2-1"
/sex-"male"
/tissue_type-"liver"
/dev_stage-"adult"
/note-"Similar to GenBank Acces
                                                                                                                                                                                                                                                                                                                                                 /gene="IRP2"
12. .2903
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ocation/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GI:897582
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Craniata; Vertebrata; Sciurognathi; Muridae;
                                                                                                                                                                                                                                                                                                                                                                                                   Accession
                                                                                                                                                                                                                                                                                                                                                                                                 ŏ.
                                                                                                                                                                                                                                                                                                                                                                                                 U20180*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Euteleostomi;
Murinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       971
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         957
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            911
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Biol.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      G
                                                                                          Ş
                                                                                                                                    B
                                                                                                                                                                 δÃ
                                                                                                                                                                                                                                        99
                                                                                                                                                                                                                                                                                                               δÃ
                                                          밁
                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                    Ъ
                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                       οy
                                                                                                                                                                                                                                                                                                                                                                                                                                   8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ϋ́
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ϋ́
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    BASE CO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local Similarity 91.6
Matches 940; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COUNT
                         868
                                                                                                                                      792
                                                                                                                                                                                                           732
                                                                                                                                                                                                                                              718
                                                                                                                                                                                                                                                                                    672
                                                                                                                                                                                                                                                                                                                        658
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 432
                                                                                                                                                                       778
                                                                                                                                                                                                                                                                                                                                                             612
                                                                                                                                                                                                                                                                                                                                                                                               598
                                                                                                                                                                                                                                                                                                                                                                                                                                   552
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      538
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            492
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             478
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     418
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        372
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            358
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                312
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         252
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      238
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              192
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  178
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     132
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         118
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               72
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    12
    GAAACAGAAGCAGTTATGCTTGGTCTGCCAGTTTCTCTTACTTTACCAGAGGTGGTTGGA
                                                          CTGTGTCCTTTTCATTTGCAACCAGTGCCTGAACCTGAAACAGTGTTAAAAAATCAAGAA
                                                                                                                                                                                                                                                                                                                                                                                                                              AAGGAAGATGTTATGAACATTTTAGACTGGAAAACCAAACCAAAGCAATGTTGAAGTGCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TIGTCGAGAGTAGTGTTTGAAGAAGCCGACCTGCTCTTCCCAGACAGCGTAATTGGCACA
                                                                                                                                                        TTGTCAAGAGTGGTTTTTGAAGAAAAAGACCTCCTCTTCCCAGACAGTGTAGTCGGCACA
                                                                                                                                                                                                                            AAGAATGTGGCAGTGAYCCCTCCTGGAACTGGAATGGCTCATCAAATAAACTTAGAATAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAAGTACAGCCTAAGAAGCTTCCATGTCGAGGCCAGACTACCTGCCGGGGATCGTGTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAAGTGCAGCCTAAGAAGCTTCCCTGCAGAGGCCAGACTACCTGCCGAGGATCTTGTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TACTCAATACGGGTCTTGTTGGAAGCTGCTGTACGAAATTGTGATGGCTTTTTAATGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TCACATAAGAAGTTCTTCGATGTATCTAAACTT----GGCACCAAGTATGATGTTCTGCCT 117
                                                                                                                                                                                                         AGAATGTGGCAGTCATCCCTCCTGGAACTGGAATGGCTCATCAAGTGAACTTAGAACAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TGTCCAACAGATCTCACAGTTGACCACTCTTTACAGATTGACTTCAGTAAATGTGCAATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TGTCCGACAGATCTTACAGTTGACCATTCTTTACAAATTGACTTCAGTAAATGTGCAATA 417
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TITTTCCCTGCCGTGTTCTTCTTCAAGATTTTACTGGAATACCAGCAATGGTGGATTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TTTTTCCCCGCCGGTGTTGTTCTTCAAGATTTCACTGGAATACCGGCAATGGTGGATTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TCACAGAAGAAGTTCTTCAATGTACCTAAACTTGGAGGCACCAAGTATGATATTCTGCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ρ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   HVLLYLGDSYTTDHISPAGSIARSRAAAKYLTNRGLTPREFNSYGARRGNDAVMTRGT
FANIKLPHKEIGKPAPKTHFPSGQTLDVFEAAELYQKEGIPLIILAGKKYGSGNSRD
WAAKGPYLLGVKAVLAESYEKIHKDHLIGIGIAPLEFLPGENADSLGLSGREVFSLSF
PEELEPGITLNIKTSTGKEFSVIAAFENDVEITLYKHGGLLNFVARKFL*
1713 c 840 g 1098 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          20.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 877.2; DB 10;
Pred. No. 3.2e-174;
0; Mismatches 83;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               840 g
```

911

851 837 791 777 657

671

597

611

537

551

477 431 371 357 311 297 237 191

251

131

491

Ş 밁 Ş 밁

> 958 912

1032 1018

RESULT 10 AC004469/c

DEFINITION

KEYWORDS SOURCE ORGANISM ACCESSION VERSION

REFERENCE

AUTHORS

```
RS. Alsbrooks S.L. Amaratunge, H.C., Are, J.R., Banks, T., Banks, 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ACAAAG 1023
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GAGACAGAGGCAGTTATGCTTGGCCTGCCAGTTACTCTTACTTTACCAGAGGTGGTTGGA
Horley K.C.

Direct Submission

Submitted (21-MAR-1998) Molecular and Human Genetics, Baylor Submitted (21-MAR-1998) Molecular and Human Genetics, Baylor College of Medicine, One Baylor Plaza, Houston, TX 77030, USA On Nov 14, 2000 this sequence version replaced g1:11079386.

Center: Baylor College of Medicine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AC004469.8 GI:11141978
HTG; HTGS_PHASE1; HTGS_DRAFT.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mammalia; Eutheria; Pr
1 (bases 1 to 309662)
                                                                                                                                                                                                                                                                                                                                           Unpublished
                                                                                                                                                                                                                                                                                                                                                                                          Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                    and Gibbs, R
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Homo sapiens
                                                                                                                                                                                                                                                                                                      (bases 1 to 309662)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1469 309662 bp DNA linear HTG 15-NOV-2000 saptens clone CTB-58E15, WORKING DRAFT SEQUENCE, 126 unordered
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  971
```

TITLE
JOURNAL
REFERENCE
AUTHORS
TITLE
JOURNAL

length

```
NOTE: Estimated insert size may differ from sequence length (see http://www.hgsc.bcm.tmc.edu/docs/Genbank_draft_data.html) (NOTE: This sequence may represent more than one clone. NOTE: This sequence may represent more than one clone. NOTE: This is a "working draft" sequence. It currently consists of 126 contigs. The true order of the pieces is not known and their order in this sequence record is arbitrary, Gaps between the contigs are represented as runs of N, but the exact sizes of the gaps are unknown. This record will be updated with the finished sequence as soon as it is available and the accession number will be preserved.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Center project name: WO
Center clone name: CTB-58E15
Center clone name: CTB-58E15
Sequencing vector: M13; L08821
Chemistry: Dye-primer Bodipy: 10% of reads
Chemistry: Dye-terminator B1g Dye: 24% of reads
Assembly program: Phrap; version 0.990329
Consensus quality: 263288 bases at least Q30
Consensus quality: 281803 bases at least Q30
Consensus quality: 292338 bases at least Q30
Consensus quality: 292388 bases at least Q30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Center code: BCM
Web site: http://www.hgsc.bcm.
Contact: hgsc-help@bcm.tmc.edu
Contact: hgsc-help@bcm.tmc.edu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Quality coverage: 12.9x in Q20 bases; sum-of-contigs
59662
63563
674453
674453
674453
6774453
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
73038
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
730388
7303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  7683: contig of 7683 bp in length
7783: gap of unknown length
12646: contig of 4863 bp in length
12746: gap of unknown length
19521: contig of 6775 bp in length
19621: gap of unknown length
26379: contig of 6758 bp in length
26379: gap of unknown length
32310: gap of unknown length
32310: contig of 5731 bp in length
32310: gap of unknown length
32310: gap of unknown length
32310: gap of unknown length
3253: contig of 6243 bp in length
3253: gap of unknown length
42623: gap of unknown length
42723: gap of unknown length
42725: contig of 4070 bp in length
42725: contig of 4070 bp in length
42725: contig of 4070 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           http://www.hgsc.bcm.tmc.
gap of contig gap of contig gap of gap of contig gap of contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           gap of contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   gap of contig gap of contig gap of contig gap of contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 gap of contig gap of contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      gap c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Information
                                                                    g of 4958
f unknown
g of 3522
                                                                                                                                                                                   f unknown
g of 3021
f unknown
f unknown
f unknown
g of 3472
g of 3472
g of 4807
f unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       f unknown
of 5393
f unknown
of 4254
f unknown
f unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        of 4035
of 4035
of 5266
of 5266
c unknown
of 3801
of 3782
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           of 4485
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             unknown
                     d bp in length in length in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 bp in l
                                                                                                                                                                                                                                                                                             bp in l
                                                                                                                                                                                                                                                                                                                                                                                                                bp in l
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ģ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ą
                                                                                                                                                                                                                                                               length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 n length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           length
                                                                                                                                                                                                                                                                                                      length
                                                                                                                                                                                                                                                                                                                                                                          length
                                                                                                                                                                                                                                                                                                                                                                                                                                              length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            estimation
```